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ABSTRACT

This report highlights three major issues dealt with in the conference: (1) energy education; (2) energy conservation; and (3) interstate and interagency cooperation. An introduction section establishes a context for the meeting by explaining the history of the network concept. Another section provides a summary of the conference recommendations for the network. An evaluation of the proceedings and comments from participants are provided in a concluding section. An appendix includes agenda, small-group discussion topics, the text of the keynote address, and a list of attendees. (RE)

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Building an Interstate Energy and Education Network

A Conference Report

EDUCATION COMMISSION OF THE STATES

SE 027 868

BUILDING AN INTERSTATE ENERGY AND EDUCATION NETWORK

A Report on the Proceedings of the First Interstate Energy and Education Network Meeting, March 29 and 30, 1979

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June, 1979

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1. INTRODUCTION

"The real problem in energy today is the lack of credibility on the part of the American people towards government and business. There seems to be a general confusion over the issues and a disbelief in existing institutions to resolve them."

"Either people aren't aware of the problems, or they are choosing to ignore them."

It's our fault. It's really up to the agencies that were created to deal with the problems and to communicate more effectively with the people about the seriousness of the energy situation today. We simply haven't done our job."

"The real issue is our lack of a national energy plan."

"We need to develop a new conservation ethic to deal with the problems facing us."

"Educating the public about energy is a much larger task than educating them about conservation."

"If the schools close down due to energy cutbacks, the issue of what to teach will become irrelevant."

The sampling of views above was taken from the proceedings of the First Interstate Energy and Education Network Meeting held in Denver, Colorado, on March 29 and 30, 1979. They reflect some of the major concerns facing those people involved in educating the public about energy and energy-related problems. On one hand, the remarks suggest the degree of frustration over what to do about energy education and conservation. On the other hand, they remind us that energy issues have become a priority facing Americans.

During the 1970's, as energy resources became less plentiful and both demand and prices for energy began to rise sharply, numerous programs and agencies came into existence to address the issues. As the complexity of the issues increased, so did the number of agencies involved in public awareness and education. State and federal agencies, as well as private organizations, began to develop energy education programs. For example, the National Science Teachers Association (NSTA) began developing K-12 curriculum materials on energy; a multi-state consortium, Energy and Man's Environment (EME), offered curriculum materials on energy and the environment; sporadic efforts were made at state and local levels to work energy awareness and information into established curricula. The American Association of School Administrators (AASA) and the Education Facilities Laboratory concentrated on assisting educational administrators in conserving energy through changes in management techniques and building construction. The Energy Atlas lists state energy offices and other state agencies having energy-related responsibilities. An Energy and Education Action Center (within the U.S. Office of Education) was organized to provide assistance to schools throughout the nation. The U.S. Department of Energy implemented its energy education programs within an Education Programs Division, formerly part of the Energy Research and Development Administration (ERDA).

As these and other types of organizations began to assume a variety of educational roles, a natural fragmentation occurred. A survey conducted by the Education Commission of the States (ECS) in

the summer of 1978 indicated that there were few cooperative efforts among state level agencies in energy education and conservation.[1] Instead, it was found that programs were being duplicated all over the nation.

The Network Idea

It became clear that energy education and conservation would be strengthened by building upon state capabilities to implement energy education and conservation priorities. ECS offered its services, through an unsolicited proposal, to the Energy and Education Action Center to help facilitate the formation of an interstate network. Recognizing that coordination could benefit the states, ECS made plans to convene the First Interstate Energy and Education Network Meeting. Invitees were from state education agencies, state energy offices, regional and central offices of the U.S. Office of Education (USOE) and the U.S. Department of Energy (USDOE), and various education and energy agencies and programs involved in energy conservation and education. Those persons having actual policy-making responsibility were invited and encouraged to attend in order to facilitate necessary decisions about coordination and programs.

The meeting was designed to accomplish four basic objectives: 1) to provide a forum for discussing energy issues and education's role in addressing them; 2) to discuss conservation plans and programs in school facilities and the relationship between conservation and

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[1]The survey is reported in The Status of State Energy Education Policy (Denver: ECS, March 1978).

instructional programs; 3) to facilitate communication and cooperation among the various agencies and offices represented, thereby laying the foundation for the network; and, 4) to discuss policy recommendations for school operations during energy-related emergencies. (This fourth objective was not discussed in detail due to time constraints created by an impending airline strike.) As a result of the meeting, cooperation among agencies and programs across state lines and within states became more of a reality.

Conference Format

The meeting was held at the Plaza Cosmopolitan Hotel in Denver on March 29 and 30, 1979. A combination of general sessions and small group discussions was utilized to facilitate the work of the meeting. Participants were given opportunities to share their experiences, ideas, and concerns. Materials from many of the agencies represented were displayed to stimulate the sharing process. Attendees had the opportunity to examine materials and receive information that will be useful in helping to eliminate some of the needless duplication of effort that has occurred in energy education and conservation.

Formal sessions began on Thursday morning, March 29. Edith Petrock, Director of Energy Projects, and Warren Hill, Executive Director of the Education Commission of the States, extended both a welcome and a challenge to the participants to face the tasks of assembling the network and discussing the issues on the agenda. The conference moderators were Polly Garrett and John Runkle. Dr. Garrett is Director of the Socio-Economic Division, USDOE, Region VIII.

Dr. Runkle is the Regional Commissioner for Educational Programs, USOE, Region VIII.

The keynote address was delivered by the Honorable Nancy Dick, Lieutenant Governor of Colorado. Governor Dick's comments served as a springboard for the discussion of energy-related issues and their implications for education. After the issues were identified, representatives from state and federal agencies presented their perspectives and roles. Rosalyn Tillis, Florida Energy Office, and Harry Meek, Ohio Department of Education, summarized the perspectives of their offices. Donald Duggan, USDOE, focused on the federal level.

Participants were then given an opportunity to identify and clarify critical energy and conservation issues. Small groups were formed to discuss what these issues were, how they should be prioritized, and what the various agencies represented at the meeting could and should do about them. Each of the small groups was assigned a discussion leader and recorder to facilitate and summarize the work that took place in these sessions.

After this discussion of the issues, a general session was held where educational implications were emphasized. Ida Brooks Butler, Research Analyst for the National Assessment of Educational Progress (NAEP), ECS, summarized the highlights of NAEP's energy assessment among young adults in the United States. Edith Petrock synthesized the results of the ECS report, The Status of State Energy Education Policy. Karl Grittner, Principal of Johnson High School, Minneapolis, Minnesota, summarized the major policy recommendations for energy

education made by the Energy Education Advisory Committee. John Fowler, Director of Special Projects, National Science Teachers Association, and Ed Dalton, Vice President, Program Operations, Energy and Man's Environment, discussed available instructional materials and unmet needs in energy education. Jenny Younger, Project Coordinator of the Energy Puppet Show, Montana League of Women Voters, presented an overview of "Take That, You Monster," which was designed to heighten energy conservation awareness among primary students.

During a second series of small group discussions, participants were given an opportunity to discuss the problems, solutions, and successes of state education agencies and state energy offices in dealing with energy education and conservation.

Formal sessions the second day (March 30) began with a presentation of "The Fourth R," a film about energy conservation in school facilities. Judy Hayes introduced the film produced by Tenneco Oil Company. Shirley Hansen, Associate Director of the American Association of School Administrators, described the Saving Schoolhouse Energy Project. Calvin Anderson, Coordinator of the Energy Conservation and Usage Program in Jefferson County Public Schools, Lakewood, Colorado, summarized the county's efforts to relate instruction and staff development to energy conservation in school buildings.

The grant program for schools and hospitals, under the National Energy Conservation Policy Act (NECPA) of 1978, was presented. Charles Denton (Office of State Specific Programs, USOE, Region VIII) summarized the rules and regulations of the program. Examples of

state-level administration of the schools and hospitals program were given by Gary Lay, Education Coordinator, Nebraska Energy Office; Duane Keeran, Program Coordinator for Education Institutions, Governor's Office of Energy Resources, Texas; and, Jacob Fey, Energy Conservation Supervisor, Washington State Energy Office. Participants went into small groups according to regional affiliation to discuss programs in energy conservation in school facilities, including the Schools and Hospitals Program.

Interagency and interstate cooperation among the various offices represented at the meeting was presented in the general session to inform participants of the problems, obstacles, and opportunities involved in such cooperative efforts. Cooperation between the state energy office and state education agency was discussed by Buie Seawell, Director of the Colorado State Energy Consevation Office, and Roy Brubacher, Assistant Commissioner of Education in Colorado. Regional-level cooperation was described by John Sasuta and Susanne Czerwinski, both of Region V. John Sasuta is Director of Dissemination, USOE, Region V, and Susanne Czerwinski is Public Information Specialist, USDOE, Region V. A sampling of state activities was presented by Kathy Puckett, Education Program Manager, Idaho Office of Energy; Richard Clark, Science Specialist, Minnesota Department of Education; and, Gerald Wohlferd, Associate in Educational Research, New York Education Department.

Future network plans were discussed by the participants in general session at the end of the two days. Participants offered suggestions

and comments on how the network should operate and what issues it should address.

Conference Report Format

The report of the meeting is divided into four major sections. This introductory section establishes the context for the meeting by explaining the history of the network concept, reviewing the conference format, and describing the organization of the proceedings.

THE ISSUES section highlights three major issues dealt with in the meeting: 1) energy education, 2) energy conservation, and 3) interstate and and interagency cooperation. It has not been intended to be a comprehensive treatment of all of the implications of these three issues. Rather, it is designed to pull together some of the most important dialogue among participants. The text follows the agenda as much as possible, giving a coherent structure for both the general reader and the conference participant.

The third section of the report (WHERE DO WE GO FROM HERE?) is a summary of the recommendations for the network. It deals with suggestions for state, regional, and federal agencies, as well as for the Education Commission of the States. Ideas about how the network might operate are also included.

The proceedings are evaluated in the fourth section of the report. Comments from participants are included to give the reader a perspective on the success of the conference and of the network idea. The agenda, small group discussion questions, keynote address, and attendee list are included in the Appendices.

2. THE ISSUES

The variety of opinions shared at the meeting created an interesting context for discussing the major issues on the agenda. For example, although participants disagreed about how we got into our current energy predicament, or about who was to blame, they did agree that both students and the general public needed more facts about energy and more of an active commitment to solving energy-related problems. Furthermore, the lack of credibility on the part of government and business leaders was a point raised several times during the two days.

While many issues were presented, three major ones were discussed extensively. First, energy education, defined largely as what students and the general public should know about energy and what is being done to educate them, occupied a central role. Second, energy conservation was singled out, not only because it is an important part of energy education, but because it is an important issue on its own right. Our need for a "new conservation ethic" and for changes in our lifestyle appears fundamental if we are to confront our energy consumption problems squarely. The third issue involved finding out what cooperation already exists among state agencies in energy education and conservation and how this cooperation could be used to serve students and the public. In other words, what should the network look like? What should be its objectives? How could it serve its members most effectively? In addition, the topic of energy curtailments was

given attention as participants received information about the need for energy conservation and emergency plans within and among the states. Coverage of this issue in the report has been subsumed under energy conservation.

Keynote Address

These three major issues were highlighted in the meeting's keynote address, "A New Energy Conservation Ethic," delivered by the Honorable Nancy Dick, Lieutenant Governor of Colorado.[2] Governor Dick summarized the charge for education by suggesting that our schools become laboratories for helping create an energy conservation awareness. Teachers and students should become involved in auditing their own school buildings, for example. In this way what students learn about alternative energy sources and conservation at school could translate as changed behavior at home.

The main theme of the address was the need for a change in our lifestyle, the basic foundation of the way we live and use energy. "The role of education is critical in building the new foundation containing a necessary new energy conservation ethic." We cannot afford to develop new agencies for coordinating educational efforts. "The public doesn't want more government agencies," said the Lieutenant Governor. "It wants more from what it has already. We will be much better off to use what already exists." An important goal for an

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[2]Complete text of the address is in Appendix C.

energy and education network should be the sharing of both the successes and failures of the organizations involved. Existing agencies need to know what's being tried and why it's working or not working.

Finally, since schools will face higher and higher fuel bills, districts are going to need concrete plans for keeping costs down and efficiency up. "It would be tragic to have to cancel art, music, or athletic classes, or reduce the teaching force in order to pay for more energy. . . that could have been [cheaper] in the first place had we had the foresight to conserve energy rather than waste it."

Critical Energy Issues

Taking cues from Lieutenant Governor Dick's comments, participants meeting in small discussion groups identified the most important issues in energy education and conservation. The overriding concern among all the groups appeared to be the development of a plan of action to sustain and improve the quality of life within the nation, with the resources available. Under this broad concern were several specific issues participants considered important:

Public awareness of the energy crisis. Participants believed that the public is apathetic and skeptical about the energy crisis. The lack of consistency and the inaccuracy of the information they receive, as well as the variety of opinions they have to deal with on the crisis, contributes to the confusion. Narrowing the "credibility gap" should become an immediate priority for leaders in the energy field.

Educational efforts. A primary task for education should be to encourage and teach students to find alternatives to our consumption-oriented thinking and lifestyle. Many participants agreed that energy education might not be popular because it implies making changes people don't really want to make. Another roadblock to educational efforts is convincing schools to add "one more" important priority to an already overcrowded curriculum.

Insuring energy resources for the present and future. The rapid depletion of non-renewable resources makes it imperative that we conserve what we have in order to achieve an energy-efficient society. Conservation can be a positive way to help us achieve that goal.

Policy development. Participants believed that both state and national policies must be formulated to clearly define energy-related problems, establish programs that are understandable to the public, coordinate information, eliminate the duplication among agencies, and help people understand and use the agencies that already exist. Policies that incorporate these suggestions will help the interaction of federal and local programs for the benefit of the public.

Distribution of energy. Citizens must learn to relate global supplies and regional problems to their local situation. Public recognition of our interdependence with the rest of the world is a key to addressing energy distribution issues. Participants requested a realistic assessment of the economics of energy to

insure the best use of public resources and a balancing of energy demand with environmental quality.

Issue One: Energy Education

The term "energy education" was used often during the conference. While no attempt was made to define it, the topics addressed under this issue include the following: an assessment of what young adults should know about energy; a review of the current status of energy education policies; policy recommendations for energy education made by the Energy Education Advisory Committee; and a brief survey of some of the materials and approaches that might be used in the classroom. A major reason for focusing on these topics was to explore what agencies and programs in energy education and conservation are and could be doing to improve knowledge and attitudes about energy-related issues. Another purpose was to bring various resources to the attention of participants.

What Young Adults Know About Energy and What State Agencies Are Doing About It

During the summer of 1977, the National Assessment of Educational Progress administered a survey of knowledge and attitudes about energy among 26 to 35-year-old Americans.[3] A major conclusion was that young people lack sufficient knowledge to make informed decisions about energy and energy-related issues. Less than half (46%) of the young

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[3]NAEP, Energy--Knowledge and Attitudes: A National Assessment of Energy Awareness Among Young Adults (Denver: ECS, December 1978). Ida Brooks Butler, NAEP Research Analyst, highlighted the findings of the report.

adults knew that crude oil provides the largest percentage of energy consumed in the United States. Only half knew that from 30% to 60% of the oil consumed by Americans is imported. Fewer than 19% knew that coal can be converted to gasoline and that the largest portion of our electrical energy is produced from coal. The survey also assessed how young adults feel about energy problems. They apparently believe that the problems confronting the nation are very serious. At the same time, over half of them reported they would drive or ride a car when traveling one-half mile or less, and over one-third doubted that their personal actions could influence large institutions such as government and oil companies.

ECS conducted another survey in August, 1978.[4] Its purpose was to find out what state agencies were doing in this critical area. Not all states have an energy education policy, nor have many state legislatures addressed energy education as a priority. Apparently, many of the legislatures do not see a need to be involved in energy education, since they see it as a responsiblity largely for state education agencies and state energy offices. Interagency cooperation at the state level is not extensive. Where it does exist, it tends to be between the state education agencies and the state energy offices. Since some cooperation does exist at this level, these two types of agencies seem the most logical starting points for an energy and education network. At the present time, most of the responsibility

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[4]The Status of State Energy Education Policy, op. cit. Edith Petrock reported on the major findings of the survey.

for energy education is being assumed by the state education agencies and, to a lesser degree, by the state energy offices.

Policy Recommendations for Energy Education

Based upon findings of the state energy education policy survey, an eleven-member National Energy Advisory Committee, chaired by the Honorable Richard Lamm, Governor of Colorado, recommended the following policies:

1) that schools have an urgent need to include energy-related topics in the curriculum at all levels, preferably as part of an integrated, comprehensive energy education conservation program;

2) that there be measures to increase inter- and intrastate level cooperation and communication among agencies involved in K-12 energy education. State Education agencies, state energy offices, local education agencies, and interested officials should work cooperatively to develop and implement comprehensive K-12 energy education programs unique to the special needs of each state;

3) that there be development of policies at the state level that include provisions for allocation of funds to state education agencies and/or state energy offices, as well as use of local funds by local education agencies, for development of comprehensive K-12 energy education programs;

4) that state education agencies, local education agencies, and individual schools (public and private) consider ways in which energy education efforts can be enhanced and further supported under authorities of existing federal education legislation;

5) that policy-makers consider ways in which institutions of higher education can provide preservice and inservice energy education programs that will contribute to the development of "energy literate" educators.[5]

These recommendations are to be considered for adoption by ECS at its annual meeting in August, 1979.

Some Instructional Materials and Approaches

The National Science Teachers Association has sought to infuse energy education into the existing curriculum by producing what it calls interdisciplinary, "real life" activities which are designed to meet the special needs of the classroom teacher.[6] NSTA believes that future curriculum would benefit from 1) developing formats for evaluating the effectiveness of energy education programs, 2) pre-testing students for energy knowledge and awareness of energy-related issues, and 3) including students in the process of enacting the auditing provisions of the Schools and Hospitals section of the National Energy Conservation Policy Act.

Energy and Man's Environment has the following concerns for energy education: 1) cooperation among people involved in energy education, 2) intense involvement of teachers in developing curriculum, 3) the

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[5]Policy recommendations for Energy Education, Grades K-12," prepared by the ECS Energy Education Project. (Denver: ECS, January 1979). The report on these recommendations was given by Karl Grittner, Principal of Johnson High School, Minneapolis, Minnesota.

[6]John Fowler, Director of Special Projects, NSTA, made this presentation.

need to infuse materials into the existing curriculum, and 4) gearing inservice to local district needs.[7] However, a major stumbling block continues to be a strong feeling that the curriculum is already overcrowded with things to teach, without energy education coming onto the scene.

The Montana League of Women Voters has produced a puppet show entitled "Take That, You Monster."[8] As an extension of some of the available instructional materials in energy education, the project demonstrates how energy conservation can be taught effectively in primary grades. It features the Energy Monster as the archvillain and the heroic Insulator Man and Sun Princess as the saviors of Earth.

State Activities in Energy Education

The problems, solutions, and successes of many state education agencies and state energy offices, as well as some of the most important efforts being undertaken in energy education today, were shared by participants in small group discussions.

There is diversity in commitment, funding, and type of energy education programs within the states represented at the meeting. As participants shared their experiences, they discovered that they are really working toward some common goals in different ways. The

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[7]Ed Dalton, Vice President, Program Operations, EME, made the presentation.

[8]Jenny Younger, Project Coordinator for the puppet show, presented highlights of the project.

following specific problems were identified:

Funding. Participants were looking for ways to acquire state, federal, and private funds to carry out projects. Some of their needs included released time for teachers and distribution of materials to schools. Dealing with local districts who fear that a commitment on their part to energy education might obligate them to spend district funds is a related problem.

Regulations. People indicated they want changes that encourage more responsibility at the state level, as well as local action. The excessive "red tape" involved in complying with regulations is a major concern in some districts.

Personnel. Some states indicated that energy education is not a responsibility assigned to any one person. This makes it difficult to organize and deliver materials, training, and resources.

State plans. Some participants felt their states need a push to develop a master plan for energy education. Too often people within a state do not know what is going on in their own state. Policy level people should participate in meetings where energy-related issues are raised.

Participants also shared the following success stories:

Communication. Jealousy among agencies has been overcome in some states through forming contracts to work together in certain programs. In other states communication has been improved by means of agencies asking chief state school officers, energy office directors, and/or advisory committees to react to plans from both the state education

agencies and the state energy offices.

Dissemination. One of the best models for dissemination is to bring teachers together in workshops to train them in new methods and materials. One state reported reaching 6,000 out of 15,000 elementary teachers through workshops. Other states have established contact teachers in each district or building to accept dissemination responsibilities. Pay, credit, and released time have been used to provide motivation for teacher involvement.

Materials Development. Fact sheets, awareness materials, energy literacy statements, materials for infusion into all disciplines, a systems approach to energy education (organizing home, school, and family, etc.), utility company publications, and assessment instruments can all be included under the heading of newly developed materials that were described at the conference. Some states specifically mentioned vocational programs, drivers' education, and post-secondary education to supplement the kindergarten through twelfth grade programs in energy.

A general suggestion emerging from these small group discussions was to create a network that would insure continued sharing of problems and successes, as they had begun to do at the conference. Such a plan should stimulate a better flow of communication among energy and educational leaders and other policy makers regarding future directions for energy education.

Issue Two: Energy Conservation

Energy conservation entered the proceedings as more than a discussion of energy curriculum and instruction. Clearly, there is a need to infuse instructional programs with activities that teach students how to conserve energy and how to use renewable energy sources. Beyond helping students develop conservation awareness, however, is the need to make the schools themselves more energy efficient. Many states are considering specific ways to assist school districts in improving the energy efficiency of their facilities.

Energy Conservation in Schools

An important program in school energy conservation was initiated in 1976 by the American Association of School Administrators. AASA's "Saving Schoolhouse Energy" was funded by the Federal Energy Administration to demonstrate the economic feasiblity of retrofitting school buildings for energy conservation.[9] The project represented an unusual marriage of government, private industry, and schools. Each of ten elementary schools around the nation agreed to pick up part of the costs, while the USDOE and four private corporations donated money, goods, and services for the retrofitting task. An important consideration was the cost-effectiveness of each modification.

Several significant things have been learned from the project. For one thing, once the schools were retrofitted with the necessary energy-saving devices, monitoring them and attributing the savings to

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[9]Shirley Hansen, Associate Director, AASA, presented a summary of the project to the conference.

specific retrofits was not easy because of the variables involved, especially human variables. The problem of making buildings more energy efficient is complex and cannot be met with simple solutions. However, the project has provided workable examples of how retrofitting for energy conservation can be a viable alternative to curtailment of services and the blind acceptance of higher fuel bills.

A program linking energy conservation in school buildings with student and staff involvement has been taking place in the Jefferson County Schools in Colorado.[10] The program is not only good curriculum, it is good business. Students and staff participate in many energy conservation activities--energy fairs, poster making, plays, slide shows, etc. They also cooperate in a mini-audit of the school facilities to find out where energy savings can be made. In this way the schools become "living laboratories" where students are involved in the real world, making positive contributions to the community and classroom environment.

Small group discussions gave participants an opportunity to discuss programs their state education agencies and state energy offices are involved in regarding energy conservation in school facilities. Participants strongly supported plans that integrate facilities improvement into energy educatio programs. The priorities for improving school facilities span a range of philosophies and

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[10]The Jefferson County program was explained by Calvin Anderson, Coordinator of Energy Conservation and Usage, Jefferson County Schools, Lakewood, Colorado.

include both material and operational concerns. In some areas the buildings with the greatest need are targeted for immediate attention while others are first addressing the problems that are most easily and economically corrected. Moreover, it is a common practice to involve local people in establishing criteria for making improvements in energy conservation.

Participants praised the energy audit process as a proven method for identifying conservation needs and establishing priorities for facilities improvement. Some states benefit from computerized storage of the data collected at on-site visits of buildings. Interagency cooperation was also mentioned as an important aspect of making energy audits. Committees, contact people, and letters of agreement help to improve implementation of energy management plans.

Problems related to facility improvement are primarily focused on providing assistance to small or poor school districts. Participants spoke of formulas for statewide distribution of funds, lack of coordination in funding cycles, and the need for securing joint bids for all public buildings in a district, as some of the financial problems.

Grant Program for Schools and Hospitals

Support for energy conservation in our nation's schools has taken form in the National Energy Conservation Policy Act of 1978, which authorizes funds over a three-year period for conducting energy audits in schools and hospitals and assisting them in installing energy-

saving measures.[11] Much of the program is administered at the state level. Interestingly, states have taken different approaches. In Nebraska, for example, the state energy office intends to hire teams of energy auditors to do the audits required in phase one of the program.[12] Texas has sought to use its twenty regional education service centers extensively for energy conservation management.[13] Each service center employs a regional energy coordinator who works with local school district personnel. An important part of the Texas approach to the act is to establish a model plan for energy managmeent at the school district level. Likewise, the state of Washington wants to eliminate as much of the "red tape" as possible in dealing with the program.[14] Washington's education service districts will be the primary target for funds. These districts will help put together audit teams and assist local school districts to implement the programs.

Several concerns about the program surfaced during the meeting. For one thing, keeping up on all the latest information provides a difficult task for those involved in its administration. Some of the

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[11]Charles Denton of the Office of State Specific Programs, USDOE, summarized some of the rules and regulations for the program.

[12]Gary Lay, Education Coordinator for the Nebraska Energy Office, reported on some of Nebraska's plans.

[13]Duane Keeran, Program Coordinator for Education Institutions, Texas Governor's Office of Energy Resources, reported on his state's activities.

[14]Jacob Fey, Energy Conservation Supervisor, Washington State Energy Office, reported on his state's approach to the program.

written forms that have to be completed require a great deal of detail. There was also concern about the lack of control by state education agencies over local education agency funding. Additional concerns were voiced regarding the lack of adequate consultation with state officials in drafting rules and regulations, and regarding the inadequacy of funding.

Issues Three: Interagency and Interstate Cooperation

The proliferation of approaches, programs, and resources in energy education and conservation has resulted in a vital need for more communication and cooperation among agencies and across state lines. This important issue occupied a great deal of attention during the two-day conference. Accordingly, not all of the discussion and suggestions regarding cooperation are considered in this section. The next section, WHERE DO WE GO FROM HERE?, will focus on the specific recommendations for coordination.

The concern in this section is exploration of some of the obstacles and opportunities for communication that currently exist among agencies and states. For example, in Colorado a major obstacle has been the past isolation of the state education agency from the state energy office, due to different perceptions of their respective roles. Since the state education agency has to deal with all facets of education in the state, energy education becomes "one more thing" to be responsible for.[15] However, it seems foolish for the state

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[15]Roy Brubacher, Assistant Commissioner of Education, Colorado, reported on the education agency role in cooperation.

energy office to develop a new system in the state for delivering energy education services to schools, because the education agency already has such a system in place.[16] An important goal is for the state education agency and the state energy office to reach local school districts. If they do not, whatever else they do in energy education seems superfluous. Another important consideration is the potential impact of the school calendar on energy consumption.[17] An additional concern is "how we can get people in the various state and local agencies talking to each other."[18] As long as agencies fight "turf battles," as one speaker put it, we won't have effective communication.[19]

At the regional level, efforts to communicate should go two ways--to the states, and to other regions.[20] Regional offices of both the U.S. Office of Education and the U.S. Department of Energy should share the responsiblity for serving constituents.

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[16]Buie Seawell, Colorado State Energy Conservation Office Director, reported on the energy office role.

[17]Gerald Wohlferd, Associate in Education Research, New York Education Department, reported on the effectiveness of the school calendar.

[18]Kathy Puckett, Education Program Manager, Idaho Office of Energy.

[19]Richard Clark, Science Specialist, Minnesota Department of Education.

[20]John Sasuta, Director of Dissemination, USOE, Region V, and Susanne Czerwinski, Public Information Specialist, USDOE, Region V, reported on the obstacles and opportunities for cooperation at the regional level.

Perspectives on the Issues

Roles and Perspectives of State Agencies

A complete summary of perspectives and roles of state education agencies and energy offices throughout the nation would take a separate discussion of each state. However, some general observations are in order. Clearly, the state education agency must meet the needs of its constituents in energy education, no matter what other tasks it assumes.[21] A close working relationship with the state energy office should be established to maximize efficiency in this area. State education agencies should be involved in insuring that schools have adequate energy supplies during curtailments, thereby minimizing interruptions in school services. The state education agency should also be involved in the state's energy audit program and provide the latest information about the provisions of the National Energy Conservation Policy Act. This latter function would help local school districts get their share of the available funds. Finally, the education agency should communicate with schools often. As part of this relationship, the agency should furnish or recommend curriculum materials in energy education and conservation, as well as guidelines for energy consumption.

The educational program within the state energy office should do several things: it should promote energy conservation; it should

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[21]Harry Meek, Director of the Energy Assistance Office, Ohio Department of Education, presented the state education agency perspective.

provide assistance in energy management so that if organizations need help, the energy office can do the job; it should act as an information gatherer for people who want to know the facts about energy; it should develop a plan for energy emergencies in the state's schools; it should develop curriculum materials when needed.[22] The legislative function of an energy office is very important. State offices should be able to write legislation and lobby to support urgently needed programs. Furthermore, the energy office needs to be visible. People have to know the organization exists to make effective use of it.

Roles and Perspectives of Federal Agencies

The U.S. Department of Energy (USDOE) cannot bear the total financial burden for energy education.[23] The federal role should be that of a partnership with the states. Moreover, instead of looking toward new programs, state agencies need to build on what has already been done. USDOE was not originally intended as an education agency. It became involved in education because its main task is to address the energy concerns of the nation, and energy education is the most logical vehicle for creating an informed public. People need adequate information to make intelligent decisions about energy use, conservation, and priorities. Hence, energy education is much more than

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[22]Rosalyn Tillis, Energy Education Coordinator for the Florida Energy Office, summed up the role and perspective of the state energy office.

[23]Donald Duggan, Chief of the Academic Programs Branch; Education Programs Division; Office of Education, Business, and Labor Affairs; USDOE, presented the U.S. Department of Energy role.

conservation education. We need to develop informed decision makers and skilled professional people to deal with our energy problems.

The role of the U.S. Office of Education (USOE) is to go forward in energy education with the funding sources already in place.[24] There is no need to create new funding categories. Money exists in several USOE programs that can be tapped to support energy-related education. The success of the network may partially depend on how well the various agencies utilize these funds.

Education Commission of the States

Finally, the mission of ECS in energy education and conservation can be seen as working with the various state agencies and acting as a catalyst among the states and the federal government.[25] It should provide information on state-related education activities, and when appropriate, suggest options and alternatives to meet specific state needs.

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[24]Wilton Anderson, Director of the Energy and Education Action Center, USOE, focused on the U.S. Office of Education role.

[25]The ECS perspective was given by Homer Elseroad, Director of the Elementary/Secondary Education Department.

3. WHERE TO DO WE GO FROM HERE?

Recommendations for the Energy and Education Network

This section is a synthesis of the comments made by participants about the Energy and Education Network. Recommendations were made for ECS and for levels of potential leadership—state, regional, and national. Originally, each level was divided into recommendations for energy offices and recommendations for education agencies. Suggestions ended up cutting across these offices, however. Mainly, the comments focused on what the network's priorities should be, who should be responsible for leadership, and what services ought to be rendered.

State Level Recommendations.

The major recommendations for agencies within the various states are as follows:

1. COORDINATION AND COMMUNICATION BETWEEN STATE AGENCIES AND STATE ENERGY OFFICES NEED CONSTANT ATTENTION.
2. STATE OFFICES SHOULD UTILIZE ALL TYPES OF RESOURCES WITHIN EACH STATE.

   For example, business leaders should be used to help educate building managers in energy use and conservation.
3. INTRASTATE NETWORKS SHOULD BE DEVELOPED TO LINK AS MANY OF THE STATE'S RESOURCES IN ENERGY EDUCATION AND CONSERVATION AS POSSIBLE.

   The mobilization of resources at the state level would insure

that the best possible services reach students and the general public.

4. A MAJOR AGENDA ITEM FOR STATE OFFICES SHOULD BE TO MAKE CERTAIN THAT ENERGY EDUCATION BECOMES A PRIORITY.

Regional Level Recommendations

The regional level received a great deal of attention for future network activities. The following were the major recommendations:

1. REGIONAL OFFICES OF THE U.S. OFFICE OF EDUCATION AND THE U.S. DEPARTMENT OF ENERGY SHOULD COORDINATE THEIR ACTIVITIES. Personnel in both offices should decide which of the two organizations will take primary responsibility and leadership for energy education. Resources should be administered through the two offices.
2. MOST NETWORK FOLLOW-UP SHOULD OCCUR AT THE REGIONAL LEVEL. A series of regional meetings should be convened before more national meetings are held. The agendas of these ten regional meetings should incorporate the following objectives:
   a. to discuss emergency energy curtailment plans, including the formation of an emergency network;
   b. to explain funding requirements of the Schools and Hospitals Grant Program;
   c. to share resources in energy education and conservation within the region;
   d. to create interoffice memoranda of agreement that spell out the details of coordination between state education

agencies and state energy offices;

e. to share information on each state's network policies and activities;

f. to discuss information on each state's network policies and activities that support energy education materials and information dissemination;

g. to set up workshops to locate existing funding sources for energy education; and

h. to set up workshops on products and services already available.

3. QUESTIONNAIRES SHOULD BE SENT TO LOCAL SCHOOL DISTRICTS IN EACH REGION TO ASCERTAIN ENERGY EDUCATION PRIORITIES.

National Level Recommendations

1. PLANS SHOULD BE MADE TO COORDINATE USOE AND USDOE ENERGY EDUCATION AND CONSERVATION ACTIVITIES AT THE NATIONAL LEVEL.

2. MAJOR RESPONSIBILITIES AT THE NATIONAL LEVEL SHOULD INCLUDE:

a. the identification of regional networks and the manner of coordination most effective for them;

b. the involvement of state education agencies and state energy offices in regional network plans;

c. the integration of energy education activities with the Schools and Hospitals program; and

d. the coordination of the USDOE funding cycle for the Schools and Hospitals Program with funding cycles of individual school districts.

Recommendations for ECS

1. ECS SHOULD COMMUNICATE WITH REGIONAL ORGANIZATIONS.
2. ECS SHOULD ENCOURAGE ENERGY-RELATED ACTIVITIES, SUCH AS THE INTERNATIONAL ENERGY CONSERVATION MONTH.
3. ECS SHOULD SPONSOR A MEETING ABOUT ENERGY CURRICULUM.
4. ECS SHOULD INCLUDE ENERGY EDUCATION IN THE COMMISSION'S EDUCATIONAL SURVEYS AND ASSESSMENTS, PARTICULARLY THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP).
5. ECS SHOULD SUPPORT THE INCORPORATION OF ENERGY EDUCATION WITH THE SCHOOLS AND HOSPITALS PROGRAM, I.E., FUSE INSTRUCTIONAL ACTIVITIES WITH THE PROGRAM.
6. EACH YEAR ECS SHOULD CONVENE THE INTERSTATE ENERGY AND EDUCATION NETWORK AND SHOULD PARTICIPATE IN THE INTERVENING REGIONAL MEETINGS.

Recommendations that cut across all three levels and ECS included supporting and utilizing Energy and Education, the newsletter written and distributed by the National Science Teachers Association; directing primary attention to better communication and coordination; and supporting whatever activities the network develops.

Follow-up Activities

Conference participants were asked: 1) what topics they would like to see the network address, 2) what kinds of information they believed the network should make available to its members, and 3) what follow-up activities they planned as a result of the meeting. The objective was to find out what impact the conference and network concept had upon the participants.

What Topics Would You Like to See the Energy and Education Network Address?

Responses to this question were as varied as the interests of the participants, but there were two points on which people's needs seemed to converge:

1. THE NETWORK SHOULD FOCUS ON EDUCATIONAL PROGRAMS AND CURRICULUM MATERIALS.

   Materials in energy and conservation education should be identified and integrated with what already exists in environmental education. Goals, objectives, and the conceptual structure of energy materials need review so that education in energy awareness can be more effective.

2. THE NETWORK SHOULD FACILITATE THE SHARING OF INFORMATION.

   Improving interagency communication and cooperation was the original goal of the network and is a continual need. The access to existing information in energy and conservation education will enable the members to make the most efficient use of what already exists, so they will not needlessly duplicate efforts. Moreover, information about how to get funding and how to administer the Schools and Hospitals Program is of vital importance to many organizations.

3. Miscellaneous responses to the question included the following:

   a. The network should urge schools to include energy education as a top priority.

b. The network should work to get policy-level people involved in energy and conservation education.

c. Legislative input, policy formation, leadership, and coordination need to be priorities for the network to address.

What Kinds of Information Do You Think the Network Should Make Available to Its Members?

1. INFORMATION ABOUT MATERIALS, LISTS OF ENERGY EDUCATION RESOURCES, LISTS OF RESOURCE PEOPLE, INFORMATION ON TEACHER TRAINING, INFORMATION ABOUT THE LATEST STUDENT ACTIVITIES, AND RESEARCH AND EVALUATION OF MATERIALS SHOULD BE A CENTRAL THEME OF THE NETWORK'S INFORMATION-SHARING SERVICES.

   Although several bibliographies have been compiled, apparently they are not widely known, or they are inadequate.

2. Other specific kinds of information desired by participants included:

   a. a list of national and state contact persons involved in conservation and energy education;

   b. a directory of state, regional, and national energy education agencies with information on how to use their services;

   c. data on energy loss and savings;

   d. sample plans for implementing the Schools and Hospitals Program and examples of successful energy management programs;

e. a document summarizing available energy- and conservation-related grants;

f. information on what other states are doing in energy education;

g. a network newsletter;

h. regular ECS communication on network activities;

i. training models for use with administrators; and

j. a list of state education agency policies and procedures governing fuel reductions and curtailments.

What Follow-Up Activities Do You Plan to Become Involved in as a Result of the Meeting?

1. MAKING THE NETWORK FUNCTIONAL REQUIRES MORE COMMUNICATION AND COOPERATION AMONG ORGANIZATIONS AND AGENCIES WITHIN THE STATE, AMONG STATES, AND AMONG STATE OFFICES AND REGIONAL OFFICES OF THE U.S. OFFICE OF EDUCATION AND THE U.S. DEPARTMENT OF ENERGY.

   Dissemination of information and materials can occur most effectively if programs and agencies can be coordinated on an intrastate level.

2. CURRICULUM DEVELOPMENT AND IMPLEMENTATION SERVICES OUGHT TO OCCUR IN THE VARIOUS STATES AND REGIONS.

   Those states that had not been actively involved with curriculum and inservice prior to the meeting stated an interest in doing so at this point. Workshops in energy curriculum and energy conservation should be held at both the

state and regional levels.

3. Other responses to the question included the following:

   a. Get involved in the school audit portion of the Schools and Hospitals Program.

   b. Emphasize the need for more accurate data on energy savings.

   c. Find out more about conservation programs.

   d. Recommend that agencies adopt priorities in energy education.

   e. Assist local school districts in obtaining grants through the Schools and Hospitals Program.

   f. Seek funds for energy education.

A number of participants were undecided about what to do next. Some of them are waiting for leadership from the network to provide suggestions for follow-up.

In summary, two major issues transcended both what participants planned to do as a result of the meeting and what services and topics they wanted to see the network address. Energy education and conservation curriculum was the first. Participants need information about what materials to use, how to use them, and how to coordinate efforts to disseminate them. The second issue involved a coordinated effort to share information and resources about energy conservation and about funding for energy education. These two issues will provide the basis for further network activities.

4. EVALUATION

The majority of oral and written comments about the conference clearly indicate that the major goals were met. It provided an opportunity to discuss educational roles in energy and conservation. Conservation and its relationship to instructional programs were examined and shared. Communication and cooperation among participants and agencies were strengthened. An exciting example of the latter was the meeting of state energy office representatives held on Friday, March 30, after the formal sessions of the conference had adjourned. Representatives from those agencies met on their own accord to discuss the rules and regulations of the Schools and Hospitals Program and what was needed for them to cooperate most effectively. They also shared their concerns about state level administration of the program.

It is difficult to say which parts of the program were most useful to the majority of the participants. People represented many different perspectives. Both the general sessions and the small group discussions had value. It is important, however, that this variety was successfully integrated into a common purpose--the development of a network to improve energy education and conservation.

Unfortunately, many of the people with policy-making responsibilities who were invited were unable to attend. Some criticisms were made that the program people who did attend did not have the necessary authority to facilitate policy. Hopefully, policy-level persons can

be briefed about the network's place at the regional level.

A sampling of the written comments sums up the success of the meeting:

"Well worth the trip!"

"You gave us something to think about."

"Well-planned program!"

"Great Program!!"

"Good meeting!"

"This is what I needed"

"Excellent idea"

"Timely"

"A welcome attempt at organization and communication"

"Very good"

"Wilton's comments were useful to me"

"Good conference!!"

"Superb meeting"

APPENDICES

APPENDIX A

AGENDA

PROGRAM

THE FIRST INTERSTATE ENERGY and EDUCATION NETWORK MEETING

Denver, Colorado
Plaza Cosmopolitan Hotel
March 29-30, 1979

Wednesday, March 28

4:00 p.m.	REGISTRATION DESK OPENS	East Mezzanine
5:30 p.m.	WELCOME RECEPTION (No host)	Broadway Arms
7:00 p.m.	DINNER (On your own)	

Thursday, March 29

8:00 a.m. - 6:30 p.m.	DISPLAYS AND EXHIBITS	Derrick Room
8:00 a.m.	REGISTRATION	East Mezzanine
9:00 a.m.	WELCOME EDITH PETROCK Assistant Director for Program Development Project Director Education Commission of the States	Century Room
	CONFERENCE MODERATORS POLLY GARRETT Director, Socio-Economic Division U.S. Department of Energy, Region VIII and JOHN RUNKLE Regional Commissioner U.S. Office of Education Department of Health, Education, and Welfare	
	INTRODUCTION WARREN HILL Executive Director Education Commission of the States	
9:15 a.m.	ENERGY ISSUES AND THEIR IMPLICATIONS FOR EDUCATION: KEYNOTE ADDRESS THE HONORABLE NANCY DICK Lieutenant Governor of Colorado	Century Room

9:45 a.m.	PERSPECTIVES ON THE ISSUES: ROLES OF STATE AND FEDERAL AGENCIES	Century Room
	Panelists ROSALYN TILLIS Florida Energy Office	
	HARRY MEEK Ohio Department of Education	
	DONALD DUGGAN Chief, Academic Programs Branch Office of Education, Business and Labor Affairs U.S. Department of Energy	
	WILTON ANDERSON Director, Energy and Education Action Center U.S. Office of Education Department of Health, Education, and Welfare	
10:15 a.m.	QUESTIONS TO PANELISTS LIEUTENANT GOVERNOR NANCY DICK NETWORK PARTICIPANTS	Century Room
10:30 a.m.	CONFERENCE GOALS AND AGENDA HOMER O. ELSEROAD Director, Elementary/Secondary Department Education Commission of the States	
	WILTON ANDERSON, USOE	
10:45 a.m.	BREAK	
11:00 a.m.	CRITICAL ENERGY ISSUES: WHAT CAN WE DO? Small Group Discussions	
	All participants have been assigned to discussion groups. (Check Conference materials for 3/19 room assignments.)	Rooms assigned are: Holiday, Directors, Bonanza, 732, 341, 331 or 823
12:00 noon	REPORTS FROM SMALL GROUP DISCUSSIONS	
12:30 p.m.	LUNCH (On your own)	

Thursday, March 29

2:00 p.m.	WHAT YOUNG ADULTS KNOW ABOUT ENERGY AND WHAT STATE AGENCIES ARE DOING ABOUT IT	Century Room
	RESULTS OF ENERGY ASSESSMENT IDA BROOKS BUTLER, NAEP Research Analyst, National Assessment of Educational Progress (NAEP), ECS	
	The Status of State Energy Education Policies EDITH PETROCK, ECS	
	Policy Recommendations for Energy Education, Grades K-12 KARL GRITTNER Principal, Johnson High School and Member, Energy Education Advisory Committee	
	Available Instructional Materials JOHN FOWLER Director of Special Projects National Science Teachers Association	
	ED DALTON Vice President, Program Operations Energy and Man's Environment	
	Questions to Panelists	
3:00 p.m.	BREAK	
3:15 p.m.	WHAT IS YOUR STATE DOING ABOUT ENERGY EDUCATION?	Rooms assigned are: Holiday, Directors, Bonanza, 732, 341, 331 or 823
4:15 p.m.	REPORTS FROM SMALL GROUP DISCUSSIONS	
4:30 p.m.	"TAKE THAT, YOU MONSTER" AN ENERGY PUPPET SHOW JENNY YOUNGER Project Coordinator Energy Puppet Show League of Women Voters, Montana	

Thursday, March 29

4:45 p.m.	"ENERGY: CRITICAL CHOICES AHEAD" AUDIO-VISUAL PRESENTATION
5:15 p.m.	U.S. DEPARTMENT OF COMMERCE OFFICE OF ENERGY PROGRAMS

CONCLUDING REMARKS

5:30 p.m.	ADJOURN-DINNER (On your own)
5:30 p.m. to 6:30 p.m.	SPECIAL SESSION U.S. Office of Education Regional Representatives meet with Wilton Anderson

8:00 a.m.-4:00 p.m.	DISPLAYS AND EXHIBITS	Derrick Room
8:30 a.m.	ENERGY CONSERVATION	Century Room

"The Fourth R"
Audio-Visual Presentation
TENNECO OIL COMPANY

Saving Schoolhouse Energy
SHIRLEY HANSEN
Associate Director
American Association of
School Administrators

Relating Instruction and Staff
Development to Energy Conservation
in School Buildings
CALVIN ANDERSON
Coordinator, Energy Conservation
and Usage
Jefferson County Public Schools
Lakewood, Colorado

9:20 a.m.	GRANT PROGRAM FOR SCHOOLS AND HOSPITALS, NATIONAL ENERGY CONSERVATION POLICY ACT OF 1978	Century Room

Legislation and Regulations
REPRESENTATIVE
Office of State Specific Programs
U. S. Department of Energy

Examples of State-level Administration
GARY LAY
Education Coordinator
Nebraska Energy Office

DUANE KEERAN
Program Coordinator for
Education Institutions
Governor's Office of Energy Resources
Texas

JACOB FEY
Energy Conservation Supervisor
Washington State Energy Office

Questions to Panelists

Friday, March 30

10:00 a.m.	BREAK	
10:15 a.m.	ENERGY CONSERVATION IN SCHOOLS: STATE/REGIONAL COORDINATION AND LEADERSHIP Small Group Discussions All participants have been assigned to discussion groups. (Check conference materials for 3/30 room assignments.)	Rooms assigned are: Holiday, Directors, Bonanza, 732, 341, 331 or 823
11:30 a.m.	LUNCHEON	Silver Glade Room

INTERAGENCY AND INTERSTATE COOPERATION: OBSTACLES AND OPPORTUNITIES

State Cooperation (Colorado)
ROY BRUBACHER
Assistant Commissioner

BUIE SEAWELL
Director, Colorado State Energy Conservation Office

Regional Cooperation (Region V)
JOHN SASUTA
Director of Dissemination
U. S. Office of Education, Region V

SUSANNE CZERWINSKI
Public Information Specialist
U. S. Department of Energy, Region V

Sampling of State Activities
KATHY PUCKETT
Education Program Manager
Idaho Office of Energy

RICHARD CLARK
Science Specialist
Minnesota Department of Education

GERALD WOHLFERD
Associate in Educational Research
New York Education Department

Friday, March 30

1:15 p.m.	RESPONDING TO ENERGY CRISES: PROBLEM SOLUTION STRATEGIES FOR CONTINUING COOPERATION AND COMMUNICATION Small Group Discussions Remain in morning discussion groups	Rooms assigned are: Holiday, Directors, Bonanza, 732, 341, 331 or 823
2:30 p.m.	REPORTS FROM SMALL GROUP DISCUSSIONS	Century Room
2:40 p.m.	FUTURE NETWORK PLANS WHERE DO WE GO FROM HERE? JOHN RUNKLE Representing the U. S. Office of Education	Century Room
	WRAP UP AND CHARGE WILTON ANDERSON Representing the U. S. Office of Education/FICE (Federal Inter- agency Committee on Education)	
3:30 p.m.	ADJOURN	

APPENDIX B

SMALL GROUP DISCUSSION QUESTIONS

THURSDAY, MARCH 29 - DISCUSSIONS

11:00 am - "CRITICAL ENERGY ISSUES: WHAT CAN WE DO?"

Purpose of Discussions: To discuss critical energy-related problems and the potential roles of state, regional, and federal education and energy offices in dealing with them...

Discussion Questions:

1. What are the critical energy-related problems we must deal with today?
2. How would you prioritize these problems?
3. What can each of the various agencies represented at this meeting do about these problems? State education agency? State energy office? U. S. Office of Education (regional and central offices)? U. S. Department of Energy (regional and central offices)?

3:15 pm - "WHAT IS YOUR STATE DOING ABOUT ENERGY EDUCATION?

Purpose of Discussions: To share what state education agencies and state energy offices are doing and could be doing in energy education... To suggest means of interagency cooperation...

Discussion Questions:

1. What are states doing in energy education? What policies, legislation, requirements, and regulations are there regarding energy education?
2. What major problems are states facing in energy education?
3. Which states have dealt with these problems? What suggestions are there for dealing with the problems?
4. Are state education agencies and state energy offices working together in energy education? What other agencies are involved? Are state agencies working with federal agencies? (I. e., regional and central offices of the U. S. Office of Education and the U. S. Department of Energy?)
5. What are suggestions for cooperative working arrangements among the various types of agencies? At the state level? At the regional level? At the national level? Keeping in mind the large number of decisions that must be made at the local level, how appropriate are suggestions for cooperative efforts at the state, regional, and national levels?

TIME MAY NOT PERMIT DISCUSSION OF ALL THE QUESTIONS LISTED. PARTICIPANTS SHOULD FEEL FREE TO CHOOSE QUESTIONS THEY WOULD LIKE TO DISCUSS IF TIME RUNS SHORT.

10:15 am - "ENERGY CONSERVATION IN SCHOOLS: STATE/REGIONAL COORDINATION AND LEADERSHIP"

Purpose of Discussions: To report on and inform each other of the approaches being taken within the states to administer programs and allocate funds under Title III of the National Energy Conservation Policy Act of 1978, and of other measures being taken in the conservation of energy in school facilities...

Discussion Questions:

1. How is your state's energy office going about the establishment of ranking factors for potential recipients of Title III funds? How is the state energy office working with the state education agency or other education groups? How can state education agencies and state energy offices best work together in this program? What roles are regional offices playing in this program?

2. What other programs are state education agencies and state energy offices involved in regarding energy conservation in school facilities?

3. How can state agencies best assist and provide leadership for local school districts regarding energy conservation in school facilities and related instruction?

4. How can state energy offices and state education agencies best utilize each other's capabilities regarding energy conservation? What successes and suggestions can you give for the two agencies working together? What problems--real or anticipated--are involved in the agencies working together? How should federal offices be involved at the regional and national levels?

*1:15 pm - "RESPONDING TO ENERGY CRISES: PROBLEM SOLUTION/ STRATEGIES FOR CONTINUING COOPERATION AND COMMUNICATION"

Purpose of Discussions: To formulate possible steps that could be taken during an energy supply curtailment...
To identify goals and means for cooperation and communication among agencies, states, and regions...

Discussion Questions:

PART A - Coping With Energy-Related Emergencies

1. What steps can be taken by various agencies during an energy supply curtailment? To address this question, participants will help formulate plans for dealing with fuel curtailment in school facilities--how supplies can be allocated and what effects such plans would have on educational services. (Scenario will be be distributed during the session.)

*Due to the impending airline strike that necessitated early departures for most of the participants, these sessions were not held.

2. What plans and mechanisms are there in your states and regions for collecting fuel reduction or curtailment energy emergency data?

3. What mechanisms are currently in place for dealing with energy emergencies (fuel reductions and cutbacks) that may influence the normal operation of school facilities? How would you assess the potential effectiveness of these mechanisms?

PART B - Planning for the Future of the Network

1. What goals can be identified for cooperation and communication among agencies at all levels--state, regional, and national?

2. How can the network be of assistance in achieving these goals?

3. How should the network be structured?

TIME MAY NOT PERMIT DISCUSSION OF ALL THE QUESTIONS LISTED. PARTICIPANTS SHOULD FEEL FREE TO CHOOSE QUESTIONS THEY WOULD LIKE TO DISCUSS IF TIME RUNS SHORT.

APPENDIX C

KEYNOTE ADDRESS

A NEW ENERGY CONSERVATION ETHIC

by

Lieutenant Governor Nancy Dick

I welcome you to the first meeting of what I hope will be an ongoing energy education cooperative network.

This is a timely meeting, bringing together representatives from both state energy offices and state education departments. It has been a long time since a problem as challenging as the energy situation has confronted this state, this country, this world. We are faced with a task made even more difficult by a lack of public confidence in the information distributed by government agencies and companies involved in the nation's energy programs.

Just this week, a Gallup Poll showed that only four in ten people believe the energy situation in the United States is "very serious." And only one-third of the American public believe that we are "very likely" to experience a gasoline shortage this year similar to the one that caused the long lines in 1973 and '74. Yet the facts remain clear. We are using more and more energy resources that will never be replaced. Our country's dependence on unstable foreign governments to supply petroleum grows each day. As a nation, we seem bent on spending more and more money on energy resources over which we have less and less control.

Rising imports, OPEC price increases and the shift away from reliance on artificially low energy prices has placed the cost of energy on everyone's minds. Because of these staggering price increases, it is in the best self-interest of schools to make energy conservation a major platform of all education programs. Our students should learn about the history of energy

development and use, about the economics of price controls in this country, about the physical laws that govern energy use, about the environmental impacts of different energy resources, about how energy can be conserved in the home, and about the energy efficient home of the future. That future, is right now. What we're talking about is lifestyle, the basic foundation of the way we live and use energy. The role of education is critical in building the new foundation containing a necessary new energy conservation ethic.

School districts and institutions of higher learning face ever increasing operating costs, a large share of which are fuel bills. Our heavy dependence on foreign oil imports is helping drive the nation's inflation. Capital is flowing out of the country to pay for this oil. But we need the money here to build new, more efficient educational buildings, to fix up the old ones and, most important, to fund the educational programs that can lead to a more energy efficient future.

In Colorado, for example, the cost of new electrical generating facilities has grown six-fold since 1965. Again, this kind of development takes its toll of the capital market. More dollars are needed to build power plants. Less capital is available for education. Most of you know how hard it is these days to pass a school bond issue.

Budgeting poses another problem because more day-to-day funds are diverted to pay energy bills. Colorado State Government is faced with a statutory annual 7 per cent spending increase limitation, while it must pay energy bills that are rising 15 to 20 per cent a year. Educational systems also must keep costs down. The public is demanding this. In order to meet the spending limitations, it is important to cut energy use, so other essential school services are not cut as well. It would be tragic to have to cancel art, music or athletics classes, or reduce the teaching force

in order to pay for more energy bills that could have been lower in the first place had we the foresight to conserve energy rather than waste it.

A typical energy cost growth rate of 15 per cent means that a school district or institution of higher learning will be paying twice as much for utility bills four-and-a-half years from now. However, there is an alternative to higher bills, ENERGY CONSERVATION.

We have all been bombarded with information in the past few weeks about the Iranian situation, possible mandatory energy conservation measures, fuel shortages and voluntary energy conservation efforts. The public has found many of these messages confusing and often contradictory. Some of the facts are clear, and you should know them:

1). The Iranian situation has caused a worldwide oil shortage of about 2 million barrels per day. The impact on the United States is about 500,000 barrels per day, about 5 per cent of our total supply.

2). Venezuela, a key U.S. oil supplier, recently raised its prices 15 to 20 per cent.

3). Another increase of 9 per cent plus surcharges came from OPEC nations this week.

All of this translates into shortages for all of us. Most gasoline wholesalers are cutting back supplies to distributors. Colorado already is experiencing gas station closings and limitations on the number of gallons to each customer. Governor Lamm has asked all Colorado citizens to voluntarily reduce their gasoline use by 5 per cent, through a variety of programs.

We recognize, however, that to ask people to change their energy attitudes and behavior is no easy task. The 1973 oil embargo that resulted

in long lines at gas stations did little to dampen the growth in petroleum use. In fact, the Gallup Poll I cited earlier, hasn't changed at all in the last two years. Nearly half the people then didn't think the situation was critical, and the percentage is the same today. Presidential fireside chats, declarations of moral wars, calls for voluntary conservation appear to have had little effect on the overall consumption of energy.

In spite of this apparent reluctance to change habits, the energy crisis is still with us. It will be a way of life, in some way or another forever. That's where the educational community comes in. And I believe that this meeting is the beginning of a way to cope with this situation.

All of you here are interested in and responsible for the education of the American public. You already have a common interest that binds you together--energy. It is my hope that this meeting will do even more to develop a network of people around the country to share materials, methods, concerns and insights about the energy problem. Our goal is to get the American public to reduce the demand for energy. We can do it without sacrifice.

However, it is essential to educate and inform our young and old citizens about the energy situation. Given the correct facts and an array of choices, people will respond in an intelligent and responsible manner. But we must educate them, not just tell them what to do.

Once the public understands the situation, they will begin to seek ways to cope with it on a personal level. You must be ready to help them with answers and information. To do this, state energy and education agencies must work together to provide creative and effective ways in reaching and educating the people.

Information sharing need not be a tedious job. In fact, you should not become mired in the task of creating a new agency or office to help coordinate educational efforts. The public doesn't want more government agencies. It wants more from what it has already. You may want to look at existing regional organizations to help in this effort. Colorado and other western states work cooperatively through a number of regional organizations, such as the Western Interstate Energy Board, The Western Solar Utilization Network and the Western Governors' Policy Office. We don't have the luxury of time to meet, plan and develop a new agency or office to help in this coordination effort. We will be much better off to use what already exists.

What can you do in the near future?

First, take a hard look at a new federal program for schools, hospitals, and other public buildings. This program wilT enable schools to conduct energy audits of their facilities. It also will help provide technical assistance and, in some instances, help pay for work and hardware needed to upgrade the energy efficiency of some buildings. The details of this program will be discussed later during this conference.

As educators, what better way to teach students about energy conservation than through a practical energy audit and retrofitting demonstration project right inside their our school building? Educational facilities use about 15 per cent of America's energy. Nearly <u>one-third</u> of that energy is wasted. That waste could be recovered through better maintenance and operation procedures. Your school buildings could become laboratories for teaching and learning abour energy conservation. Students could be used to monitor energy consumption and help perform the energy audits. In fact,

the allocation of funding under the federal program to the schools could be made contingent upon the extent of energy conservation curricula in the participating schools. Colorado is considering such a requirement for its program.

Another important area for educational opportunity is the use of alternative energy resources in both your construction and educational programs. We are on a one-way path in the use of traditional fuels, especially fossil fuels. We are depleting them. Eventually, the entire globe will have to be powered by renewable solar-based energy sources. I'm talking about solar energy, wind power, wood and other so-called biomass fuels, geothermal and hydro power. We need to begin the conversion today, both in the field, and in the classroom.

Another important objective for you, as educators, is to link classroom work with the home. That is not an easy task. But as utility bills rise, it will become easier. I turn to Colorado for one more example of how this can work. Our Office of Energy Conservation created a publication called The Energy Scorecard, which is a lifestyle energy audit. The publication is used to assess how much energy you "spend" and how much you can "save" in three major energy-use areas: home heating and cooling, transportation and appliance use. It contains many tips on saving energy. The office also developed a teachers guide, which in now being tested in several schools. With the guide, and by using The Energy Scorecard as a text, a teacher in any one of four subject areas can set up a week-long unit on energy. During the week, students are asked to take home The Energy Scorecard and perform energy audits on their households, preferably with other family members.

This is one way to get the family involved in what you teach in the classroom.

Many of you are already implementing energy curricula of your own. One goal of any new informational and educational network formed here today ought to be the sharing of the successes and failures of your educational efforts. Energy offices and educational organizations all around the country need to know what's being tried and why it's working or not working.

The eyes of the world are turned to us, the United States. We have only 16 per cent of the world's population, but we use more than one-third of its energy resources. As other nations develop, they will want a greater share of the energy pie. Ultimately, our choices will be limited. Either we go to war to preserve our energy glut, or we use less to do the same things. I prefer the latter -- a more realistic and humanistic approach.

I hope that the months to come will see continued interaction between all of you here as you help all of us develop a new, and vital energy conservation ethic.

I thank you for being here today and I sincerely hope you deliberations are successful.

APPENDIX D

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March 29-30, 1979

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It is the policy of the Education Commission of the States to take affirmative action to prevent discrimination in its policies, programs and employment practices.